MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS MLLLGLLLTSALAGORTGTRAESNLSSKLOLSSDKEONGVODPRHERVVTISGNGSIHS PRFPHTYPRNTVLVWRLVAVEENVWIOLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL PKFPHTYPRNMVLVWRLVAVDENVRIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGSVL GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA GRWCGSGTVPGKQTSKGNHIRIRFVSDEYFPSEPGFCIHYSIIMPQVTETTSPSVLPPSS LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSRVVDLNL LSLDLLNNAVTAFSTLEELIRYLEPDRWOVDLDSLYKPTWOLLGKAFLYGKKSKVVNLNL LTEEVRLYSCTPRNFSVSIREELKRTDTIFWPGCLLVKRCGGNCACCLHNCNECQCVPSK LKEEVKLYSCTPRNFSVSIREELKRTDTIFWPGCLLVKRCGGNCACCLHNCNECQCVPRK VTKKYHEVLQLRPKTGVRGLHKSLTDVALEHHEECDCVCRGSTGG (SEQ ID NO:2) VTKKYHEVLQLRPKTGVKGLHKSLTDVALEHHEECDCVCRGNAGG (SEQ ID NO:43)

Fig. 1

```
Hydrophobic
                                                     Hydrophilic
              -2
                         -1
                                     0
    -1.08
                        ======= M
 2
    -1.28
 3
    -1.74
 4
    -1.85
                 ======== F
 5
    -2.11
              ========= g
 6
    -1.61
                   ======== L
 7
    -1.50
 8
    -1.50
 9
    -1.28
                      ======= L
10
    -0.98
                          ====== t
11
    -0.38
                                ==== S
12
    0.07
                                     A =
13
     0.18
                                     L ==
14
     0.48
                                     A =====
15
     0.50
                                     G ====
16
     0.53
                                     0 =====
17
     0.42
                                     R ====
18
     0.42
                                     Q ====
19
     0.43
                                     G ====
20
     0.47
                                     T ====
21
     0.23
                                     Q ==
22
     0.25
                                     A ===
23
     0.38
                                     E ====
     0.38
24
                                     S ====
25
    -0.08
                                   = N
26
    -0.08
                                   = L
27
    -0.20
                                  == S
    -0.20
28
                                  == S
29
    -0.20
                                 == K
30
    -0.67
                            ====== F
31
     0.25
                                     Q ===
32
    0.72
33
     1.17
                                     S ========
34
     1.15
                                     S ========
35
     1.10
                                     N =======
36
     0.82
                                     K ======
37
     0.35
                                     E ====
38
     0.35
                                     Q ====
39
    0.32
                                     N ===
40
     0.32
                                     G ===
41
     0.63
42
     1.38
                                      ==========
43
     1.85
                                     D
                                      ================
44
     1.05
                                      =========
45
     0.75
46
    0.15
                                     h ==
47
   -0.42
                               ==== E
48
   -0.87
                          ======= R
49
    -1.43
                     ======== I
```

Fig. 2A

```
50
     -1.10
                         ======= I
 51
     -0.80
                            ====== t
 52
     -0.18
                                  == V
 53
     -0.23
                                  == S
 54
     -0.37
 55
     -0.25
                                 === N
 56
     -0.28
                                 ===G
 57
     0.22
                                     S ==
 58
     -0.25
                                 === I
 59
     0.05
                                     Η
 60
     0.05
                                     S
 61
     -0.07
                                   = P
 62
     -0.05
                                     R
    -0.55
 63
                              ===== F
 64
      0.37
                                     P ====
 65
      0.40
                                     H ====
 66
      0.42
 67
     0.23
                                     У
 68
     -0.08
                                   = P
 69
     -0.33
                                 ===R
 70
     -1.40
                      ======== N
 71
     -0.93
                          ====== T
 72
     -1.17
                        ======== V
 73
     -1.17
                        ======= L
 74
     -0.95
                          ======= V
 75
     -0.95
                          ======= W
 76
      0.12
                                     R =
 77
      0.12
                                     L =
 78
      0.45
                                     V =====
 79
     0.45
                                     A ====
 80
     -0.03
                                     V
 81
     -0.08
                                   = E
 82
     -0.55
                              ===== E
     -1.35
 83
                      ======== N
 84
     -1.45
                      ========= V
 85
     -1.62
                    ========= W
     -0.55
 86
                              ===== I
 87
      0.25
                                     Q ===
 88
      0.72
                                     L ======
 89
      0.60
                                     \mathbf{T}
                                      ======
 90
      0.67
                                     F ======
 91
      0.78
                                     D ======
 92
      0.78
      0.78
 93
                                     R ======
 94
      0.28
                                     F ===
 95
      1.20
                                     G =========
 96
      1.70
                                     L ==========
 97
      2.50
                                     98
      1.70
                                     D ==========
 99
     1.03
                                     P =======
     1.53
100
                                     E =========
101
     0.65
                                     D =====
102
     0.65
                                     D =====
103
     -0.27
                                 === I
```

Fig. 2B

```
104
     -0.22
                                   == C
105
      0.45
                                     K =====
     -0.30
106
                                  === Y
107
      0.58
                                     D =====
108
      0.58
                                     F =====
109
      1.00
                                      V =======
110
      1.30
                                      E ========
111
      1.30
                                      V ========
112
      1.55
                                      E =========
113
     0.98
                                      E =======
114
    0.18
                                     P ==
115
    -0.12
                                   = S
116
     -0.17
                                  == D
117
     -0.17
                                  == G
118
     -0.73
                             ===== T
119
     -0.83
                            ====== I
120
     -0.53
                               ==== L
121
     -0.80
                            ====== G
122
     -0.80
                            ====== R
123
     -1.37
                      ======== W
124
     -1.05
                         ======== C
125
                           ====== G
     -0.88
126
     -0.88
                           ====== s
127
     0.18
                                     G ==
128
     0.22
                                     T ==
129
    -0.02
                                     V
130
      0.28
                                     P ===
131
     0.78
                                     G =====
132
      0.78
                                     K ======
133
     0.32
                                     0 ===
134
     0.32
                                     I ===
135
     0.32
                                     S ===
136
     0.77
                                     K ======
137
     -0.03
                                     G
138
      0.47
                                     N =====
139
     0.02
                                     Q
140
    -0.27
                                 === I
141
     0.08
                                     R =
142
     0.08
                                     I =
143
     0.88
                                     R =======
144
      0.00
                                     F
145
      0.00
                                     V
146
      0.25
                                     S ===
147
      0.25
                                     D ===
148
      0.25
                                     E ===
149
    -0.25
                                 === Y
150
     0.13
                                     F =
151
     0.13
                                     P =
152
    -0.03
                                     S
153
    -0.38
                                ==== E
154
    -0.97
                          ======= P
155
    -1.35
                      ======== G
156
    -1.32
                       ======= F
157
    -1.20
                        ======== C
```

Fig. 2C

```
158
     -1.28
                        ======= I
     -1.20
159
                         ======= H
160
     -1.12
                          ======= Y
161
     -0.70
162
     -1.15
                         ======= I
163
     -0.92
                            ====== V
164
     -0.17
                                   == M
165
     -0.03
                                      P
166
     -0.28
                                  === Q
167
     -0.27
                                  === F
168
      0.15
                                      T =
169
      0.27
                                      E ===
170
     -0.48
                                ===== A
171
     -0.70
                              ===== V
172
     -0.45
                                 ==== S
173
     -0.50
174
     -0.45
                                ==== S
175
     -0.58
176
     -0.63
                               ===== L
177
     -0.33
                                  === P
178
     -0.63
                               ===== P
179
     -0.13
                                   = S
180
     -0.48
                                ==== A
181
     -0.70
                              ====== L
182
     -0.37
                                 ==== P
183
     -0.33
                                  === L
184
     -0.12
                                    = D
     -0.92
185
                            ====== L
186
     -1.18
     -0.97
187
188
     -1.42
                       ======== N
189
     -2.02
190
     -2.00
                191
     -2.00
                ======== t
192
     -0.93
                            ====== A
193
     -0.35
                                 ==== F
194
     -0.23
                                   == s
195
      0.03
                                      \mathbf{T}
196
      0.60
                                      L =====
197
      0.52
                                      Ε
                                        =====
     -0.28
198
                                  === D
199
     -0.28
                                  === L
200
      0.02
                                      Ι
201
      0.82
                                      R =======
202
      0.82
                                      Y ======
203
      1.03
                                      L =======
204
      1.37
                                      E ========
205
      0.57
                                      P =====
206
      1.07
                                      E ========
207
      0.27
                                      R ===
208
      0.27
      0.93
209
                                      Q
                                        =======
210
      0.60
                                      L =====
211
      0.52
                                      D =====
212
      0.52
                                      L =====
```

Fig. 2D

```
213
      0.82
                                      E ======
214
      0.25
                                      D ===
215
     -0.42
                                 ==== L
216
     -0.08
                                    = Y
217
     0.00
                                      R
218
     -0.80
                             ====== P
219
     -0.80
                             ====== T
220
     -0.23
                                   == w
221
     -0.15
                                    = Q
222
     -0.60
                               ===== L
223
     -0.55
                               ===== L
224
     -0.67
                              ===== G
225
     -0.67
                              ====== K
226
     -0.67
                              ===== A
227
     -0.08
                                    = F
228
     0.38
                                      V ====
229
      1.13
                                      F ========
230
      1.30
                                      G ========
231
      1.05
                                      R ========
232
      1.05
                                      K ========
233
      0.25
                                      S ===
234
     0.23
                                      R = =
235
     -0.57
                               ===== V
236
     -0.62
                               ===== V
237
     -0.43
                                 ==== D
238
     -0.43
                                 ==== L
239
      0.37
                                      N ====
240
      0.08
                                      L =
241
      0.88
                                      L ======
242
      0.88
                                      T ======
243
      0.57
                                      Ε
244
      0.12
                                      \mathbf{E}
245
     -0.55
                               ===== V
246
     -0.37
                                 =====R
     -0.87
247
                            ====== L
248
     -0.07
                                    = Y
249
     0.35
                                      S ====
250
     -0.12
                                    = C
251
     0.10
                                      T =
252
     -0.08
                                    = P
     -0.03
253
                                      R
254
     -0.83
                             ====== N
255
     -0.37
                                 ====F
256
     0.55
                                      S =====
257
      1.00
                                      V =======
258
      0.95
                                      S =======
259
      1.40
                                      I ========
260
      2.20
                                      R =============
261
     1.63
                                      E =========
262
     1.63
                                      E =========
263
     1.07
                                      L =======
264
      1.07
                                      K =======
265
      0.15
                                      R =
```

Fig. 2E

```
266
     -0.92
267
     -0.85
                              ====== D
268
     -1.35
                         ======== T
269
     -1.45
270
     -1.45
271
     -1.33
272
     -1.02
                             ======= P
273
     -0.52
                                   ==== G
274
     -0.02
                                         C
275
     -0.02
                                         L
276
      0.28
                                         \mathbf{L}
277
       0.58
                                         V
                                            =====
278
      0.87
                                            =======
279
      0.20
                                         R
280
     -0.38
                                    ==== C
281
     -0.38
                                    ==== G
282
     -0.55
                                  ===== G
283
     -0.85
                              ======= N
284
     -0.97
                             ======= C
285
     -0.77
     -0.85
286
                              ======= C
287
     -0.65
                                ====== C
288
      0.02
                                         L
289
      0.15
                                         H ==
290
      0.27
                                           ===
                                         N
291
      0.07
                                         С
292
     -0.02
                                         Ν
293
     -0.05
                                         E
294
     -0.50
                                   ==== C
295
      0.17
                                         Q
                                           ==
296
     -0.12
                                       = C
297
     -0.02
                                         V
298
      0.73
                                         P ======
299
      1.23
                                         S ========
300
      1.20
                                         K ========
301
      0.62
302
      1.37
                                            ==========
303
      1.18
                                         K ========
304
      0.38
                                         K ====
305
     -0.08
                                       = y
306
     -0.40
                                    ==== H
307
      0.18
                                         \mathbf{E}
                                           ==
308
     -0.32
                                     === V
309
      0.43
                                         L ====
310
      0.67
                                         Q
311
      0.63
312
      0.68
                                         R ======
313
      0.68
314
      0.68
315
     -0.12
                                         Т
316
     -0.13
                                         G
317
      0.37
                                         V ====
318
      0.67
                                         R =====
319
     -0.13
                                       = G
```

Fig. 2F

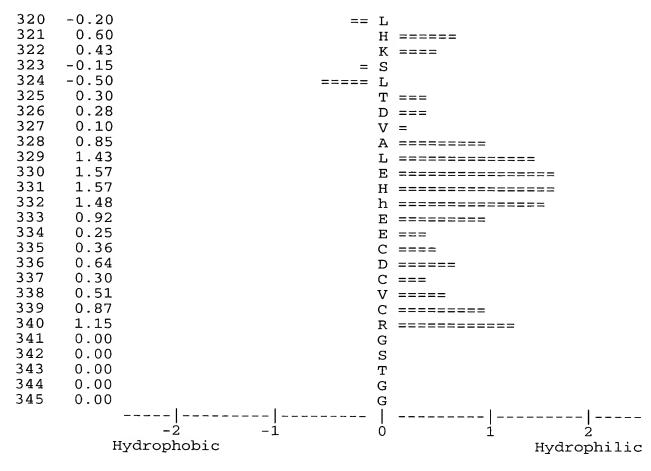


Fig. 2G